

Project: Improving occupational health in Oregon: Turning data into action

Grant number: U60 OH008472

Budget period: July 1, 2012 – June 30, 2013

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Occupational Health Indicator Component

Major outputs

Beyond calculating and disseminating the occupational health indicators, Occupational Public Health Program (OPHP) staff engaged in a range of other occupational health surveillance efforts.

Staff, in partnership with OR-FACE, collaborated on an analysis of elevated occupational fatalities among older workers in Oregon. The project uses data from OR-FACE, Bureau of Labor Statistics,

Oregon Workers' Compensation, Census of Fatal Occupational Injuries (CFOI), and peer reviewed literature to address research gaps and recommend evidence-based guidance interventions. Our hypothesis is that workers over age 65 have an increased risk of transportation-related occupational fatalities due to the following factors:

1. Hazard Exposure: Older male workers have higher levels of employment in hazardous transportation occupations.
2. Organization of Work: Differences between small and large employers in safety management programs and work organization for older employees.
3. Physical Fragility: physical vulnerabilities and disease conditions that increase with age.
4. Cognitive, Sensory, and Psychomotor Changes: Normative changes in cognition, sensory, and psychomotor abilities with age.

The results of this analysis, including prevention recommendations were published in April 2013.

Education and outreach

Publications

Walters, J., Olson, R., Karr, J., Zoller, E., Cain, D., Douglas, J. (2013). Elevated occupational transportation fatalities among older workers in Oregon: An empirical investigation. *Accident Analysis and Prevention*, 53, 28-38.

Presentations

Cain, Daniel. "Getting the lead out: collaboration, not chelation." State Occupational Surveillance Partners Meeting. Tampa, FL. 11 December 2012. Poster presentation.

Cain, Daniel. "Persistant and Emerging IH Issues" Governor's Occupational Safety and Health Conference. Portland,OR. March 2013. Oral presentation.

Partnerships

Staff maintained an active role in the Oregon Young Employee Safety coalition (O[yes]), a coalition of agencies and organizations devoted to improving the health and safety of young workers in Oregon. Dan Cain, the OPHP lead worker, remains a board member on O[yes]. In addition, OPHP partnered with O[yes] and CROET at the Northwest Agriculture Show, where safety and health message were shared with visitors to the show. OPHP also partnered with O[yes] for the Govenor's Occupational Safety and Health conference (GOSH) to host high school students from around the state. Students attending safety and health presentations, and were given a guided tour of the vendor booths at Oregon's largest safety and health conference. Mr Cain also served as a judge for the annual O[yes] high school student safety video. One of the winners was offered an internship with OR-OSHA, and will spend the summer updated safety videos. See the website for more information: <http://youngemployeesafety.org/salem-academy-students-win-statewide-safety-video-contest/>

Based on the analysis of a survey conducted by program staff in 2012, the OPHP Advisory Committee was relaunched in November 2012, and was merged with the Oregon FACE Advisory Committee. Discussions between the two programs revealed that the majority of committee members served on both committees. This should increase collaboration, and reduce the amount of time required by our stakeholders. The Committee assembles partners in occupational health from around the state to discuss important issues and opportunities for collaboration.

Oregon Fatality Assessment and Control Evaluation (OR-FACE) Component

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The OR-FACE project of *Improving Occupational Health in Oregon: Turning Data to Action* is conducted in partnership with the Center for Research on Occupational and Environmental Toxicology (CROET) at Oregon Health & Science University (OHSU).

Major outputs

Surveillance – Provisionally, OR-FACE recorded 15 fatalities in 2013, 47 fatalities in 46 incidents in 2012, and 58 fatalities in 2011.

Investigation Reports – Two investigation reports were published and one is currently under final review.

- OR 2008-1: “Mechanic killed by excavator bucket during maintenance.” Outlines risk factors during heavy equipment maintenance, including the activation of vehicle/machinery controls with loose clothing or tools (Sep 2012)
- OR 2010-6-1: “Truck driver crushed between semi-trailer and loading dock.” Outlines prevention recommendations for workers and employers to prevent fatalities during loading dock deliveries (Mar 2013)
- OR 2010-50: “Timber faller killed while working under a hung tree limb” (under final review)

Peer-Reviewed Publications

- Walters, J., Olson, R., Karr, J., Zoller, E., Cain, D., Douglas, J. (2013). Elevated occupational transportation fatalities among older workers in Oregon: An empirical investigation. *Accident Analysis and Prevention*, 53, 28-38.

Additional Publications

- Annual report: OR-FACE Annual Report 2009 (Feb 2013)
- Annual report: OR-FACE Annual Report 2010 (May 2013)
- Blog post: “Resurfacing Bathtub Causes Death in Oregon” (Feb 2013)
- Toolbox talk guide: “7-Foot scaffold fall” (Mar 2013)
- Toolbox talk guide: “Roofing materials fall on worker” (Mar 2013)
- Toolbox talk guide: “Fall down elevator shaft” (Mar 2013)
- Toolbox talk guide: “Load of lumber shifts” (Mar 2013)

Presentations & Grants Submitted

- Cannon, A., Olson, R., Zoller, E. (Aug 2012). Out of Sight, Out of Mind: On-site Toolbox Talk Guides to Improve Construction Safety. Poster presented at the CROET Summer Internship Program Poster Competition, Portland, OR.
- Olson, R. (Oct 2012). The OR-FACE investigation program and current special emphasis projects. Presentation to the Oregon OSHA Construction Advisory Committee.
- Olson, R. (Nov 2012). State of the OR-FACE program and current special emphasis projects. Presentation to the Oregon Occupational Public Health Program advisory board, Portland, OR.
- Olson, R. (Dec 2012). The OR-FACE investigation program and current special emphasis projects. Presentation to the Oregon OSHA Portland field office.
- Jones, J. & Olson, R. (Feb 2013). CROET and OR-FACE exhibitor booth. Mid-Oregon Construction Safety Summit, Bend, OR.
- Olson, R. (Feb 2013). The OR-FACE investigation program and current special emphasis projects. Presentation to the Oregon OSHA Bend field office.
- OR-FACE. (Mar 2013). The OR-FACE toolbox talk initiative. Poster presented at the Governors' Occupational Safety & Health Conference (GOSH), Portland, OR.
- Olson, R. & Schoonover, T. (Apr 2013). Severe injury as a triggering event to engage residential contractors in fall prevention research and intervention: A multi-state FACE program proposal. Joint submission with WA-FACE to CPWR Construction Safety and Health Research Initiative's request for concept memos.
- Olson, R. (Jun 2013). Proposed OR-OSHA and OR-FACE investigation collaboration agreement. Presentation to OR-OSHA field office managers, Salem, OR.
- Olson, R. (Jun 2013). OR-FACE program overview. Presentation to the Research and Education Services Section of the Public Health Division of the Oregon Health Authority, Portland, OR.

OUTREACH/INTERVENTION OUTCOMES

Potential Outcomes

- Identifying interventions for preventing transportation-related fatalities among older workers. In response to an observed elevated risk of fatal transportation events among workers over the age of 65, OR-FACE conducted research on potential causal factors and intervention strategies. In April 2013, the manuscript was published in *Accident Analysis and Prevention* (see citation above). The research investigated evidence from several Oregon and National datasets regarding several factors that may explain the elevated mortality in this population, including exposure/employment level; organization of work factors; increased physical fragility; and age-related cognitive, sensory, and psychomotor changes.
- Preventing residential construction fatalities. Building on 2012 survey of construction supervisors, OR-FACE conducted two field studies at 10 medium-to-large

commercial construction sites. The first study tested worker preferences and viewing distances for hazard images (photographs vs. line drawings) and showed that line drawings were superior. Next, 4 draft guides were tested at 9 additional sites (Nov 2012-Feb 2013). Each site was visited twice to expose each crew to two types of supervisor talks: (1) a talk given using a full OR-FACE Investigation Report and (2) a talk given using toolbox talk guides. After each talk, workers and supervisors (n=119) were given surveys to measure their reactions, learning, and behavior change intentions. The first four field-tested toolbox talk guides were published in Mar 2013. A manuscript to be submitted for peer review is in progress. At each construction site, National Fall Fatalities Prevention Campaign “Safety Pays, Falls Cost” campaign materials were distributed to supervisors and workers (posters, stickers, cards).

Intermediate Outcomes

Distribution of Publications – The goals of distributing existing publications are to influence employers’ hazard control and supervisory practices, influence policy makers’ occupational safety decisions, and to provide prevention information directly to line workers. In 2012-13, materials distributed and downloaded from the OR-FACE website included:

- Annual reports (2009, 2010) distributed as e-publications to over 200 subscribers via listserv and promoted via CROET Facebook and Twitter
- 211 “Fallers Logging Safety” booklets distributed via mail by request
- 100 “Young Workers: Stay Alive on the Job!” booklets distributed via mail by request
- Total download counts for each toolbox talk published in March 2013:
 - 291 “7-Foot scaffold fall”
 - 158 “Roofing materials fall on worker”
 - 138 “Fall down elevator shaft,”
 - 136 “Load of lumber shifts”
 - Promoted via CROET Twitter and re-tweeted by the international organizations WorkSafeBC and WHSAustralia (≈ 14,000 combined followers)
- 6286 website views annually, 523 average monthly website views, 98 average monthly document downloads

Publications in featured in national and local media

- *Safety + Health*, the free National Safety Council monthly magazine, featured two OR-FACE investigation reports in its FACE Value column—“Janitor Using Propane Buffer Killed By Carbon Monoxide” (Sep 2012) and “Mechanic killed by excavator bucket during maintenance” (Jul 2013)
- The Columbia-Willamette Chapter of the American Society of Safety Engineers highlighted the OR-FACE “Occupational Fatalities in Oregon Annual Report 2010” in its “Safety Emphasis” monthly newsletter (Jun 2013)

